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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,870	12/04/2003	Jorge E. Lopez de Cardenas	68.0425	7870

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SCHLUMBERGER RESERVOIR COMPLETIONS
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EXAMINER

COLLINS, GIOVANNA M

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/727,870	Applicant(s) LOPEZ DE CARDENAS ET AL.	
	Examiner Giovanna M. Collins	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-15 and 22-28 is/are allowed.
- 6) ☒ Claim(s) 1,3-7,16-21 and 29-31 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The indicated allowability of claims 16-21 is withdrawn in view of the newly discovered reference(s) to Moffatt '037. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz 5,273,112.

Schultz discloses a method of optimizing production from a formation without creating undue risk of mechanical instability of the formation, comprising: sensing a bottom hole flowing pressure; comparing the bottom hole flowing pressure to a stability envelope for the formation; and adjusting fluid production to maintain the bottom hole flowing pressure within a desired region of the stability envelope (col. 1, lines 57-col. 2, lines 14). Schultz does not specifically disclose establishing a stability envelope and programming a desired region of operation within the stability envelope. However, Schultz does disclose once the bottom hole flowing pressure is sensed, the signal is sent to a controller which compares the information to stored information in the controller to operate the system (col. 1, line 66-col. 2, line 3). This stored information in

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controller would contain the best operating parameters (stability envelop) of the equipment to make sure the equipment is not operating outside of its limits. As it would be advantageous to operate the equipment within the best operating parameters, it would be obvious to one of ordinary skill in the art at the time of the invention to modify the method disclosed by Schultz to establish a stability envelop and programming a desired region of operation.

Referring to claim 3, Schultz discloses sensing the bottom hole flowing pressure repeatedly and periodically (col. 1, lines 57-col. 2, lines 14).

Referring to claim 4, Schultz discloses a computerized device to automatically adjust (by adjusting the valve) the bottom hole flowing pressure to the stability envelope (col. 1, lines 66-col. 2, lines 3).

Referring to claims 5-6 Schultz discloses adjusting a valve or choke to change the fluid production rate (col. 1, lines 57-col. 2, lines 14).

2. Claims 1, 3, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birckhead et al. 6,536,522.

Birckhead discloses a method of optimizing production from a formation without creating undue risk of mechanical instability of the formation, comprising: sensing a bottom hole flowing pressure; comparing the bottom hole flowing pressure to a stability envelope for the formation; and adjusting fluid production to maintain the bottom hole flowing pressure within a desired region of the stability envelope (col. 1, lines 1-20).

Birckhead does not specifically disclose establishing a stability envelope and

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programming a desired region of operation within the stability envelope. However, Birckhead does disclose once the bottom hole flowing pressure is sensed, the signal is sent to a controller which compares the signal to information stored in the controller to operate the system (col. 3, lines 21-27)). This stored information in controller would contain the best operating parameters (stability envelope) in order to operate the equipment in a safe and efficient manner (col. 3, lines 26-28). As it would be advantageous to operate the equipment in a safe and efficient manner, it would be obvious to one of ordinary skill in the art at the time of the invention to modify the method disclosed by Birckhead to establish a stability envelope and programming a desired region of operation.

Referring to claim 3, Birckhead discloses a computerized device to automatically adjust (by adjusting the pump) the bottom hole flowing pressure to the stability envelope (col. 4, lines 44-64)).

Referring to claim 7, Birckhead discloses (fig. 1) using an artificial lift mechanism (60) to change the fluid production rate.

3. Claims 16 –18, 21 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birckhead et al. 6,536,522 in view of Moffatt et al. 20030164037.

Birckhead discloses a system (fig. 1) for optimizing production comprising a completion (10) deployed in a wellbore having a flow control mechanism (38) a bottom hole flowing pressure sensor (40). Birckhead does not disclose a reservoir pressure sensor or stability envelope. Moffatt teaches that reservoir pressure sensors are well

known in the art (paragraph 0002-0009). However, Birckhead does disclose once the bottom hole flowing pressure is sensed, the signal is sent to a controller which compares the signal to information stored in the controller to operate the system (col. 3, lines 21-27)). This stored information in controller would contain the best operating parameters (stability envelop) in order to operate the equipment in a safe and efficient manner (col. 3, lines 26-28). As it would be advantageous to operate the equipment in a safe and efficient manner and reservoir pressure sensors are well known in the art it would be obvious to modify the system disclosed by Birckhead to have a stability envelop and a reservoir pressure sensor in view of the teachings of Moffatt.

Referring to claims 17, Birckhead discloses an artificial lift mechanism (60).

Referring to claims 18 and 21, Birckhead discloses a computerized device (25) capable of automatically adjust (by adjusting the valve) the bottom hole flowing pressure to the stability envelope and capable of comparing reservoir pressure to bottomhole flowing pressure to a stability envelope to adjust the bottom hole flowing pressure.

Referring to claims 29-30, Birckhead discloses a system for optimizing production of a fluid from a formation without incurring sanding due to mechanical instability of the formation, comprising: means comprising a pressure sensor (50) for monitoring and a bottom hole flowing pressure proximate a production completion, means for establishing a stability envelop (25) and means (60) for periodically adjusting the ratio of bottom hole flowing pressure to reservoir pressure to maintain the ratio at a desired position relative to a predetermined line representative of the maximum pressure ratio under balance for the formation. Birckhead does not disclose means for

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monitoring reservoir pressure. Moffat teaches that reservoir pressure sensors to monitor reservoir pressure are well known in the art (paragraph 0002-0009). As reservoir pressure sensors are well known in the art it would be obvious to modify the system disclosed by Birckhead a reservoir pressure sensor in view of the teachings of Moffatt.

Referring to claim 31, Birckhead disclose the means for periodically adjusting comprises a flow control mechanism (60) by which bottom hole flowing pressure is changed.

4. Claims 16 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz 5,273,112 in view of Moffatt et al. 20030164037.

Schultz discloses a system for optimizing production comprising a completion (10) deployed in a wellbore having a flow control mechanism (38) a bottom hole flowing pressure sensor (40). Schultz does not disclose a reservoir pressure sensor or stability envelope. Moffat teaches that reservoir pressure sensors are well known in the art (paragraph 0002-0009). . However, Schultz does disclose once the bottom hole flowing pressure is sensed, the signal is sent to a controller which compares the information to stored information in the controller to operate the system (col. 1, line 66- col. 2, line 3). This stored information in controller would contain the best operating parameters (stability envelop) of the equipment to make sure the equipment is not operating outside of its limits. As it would be advantageous to operate the equipment within the best operating parameters and reservoir pressure sensors are well known in

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the art it would be obvious to modify the system discloses by Schultz to have a stability envelop and a reservoir pressure sensor in view of the teachings of Moffatt.

Referring to claims 18 and 21, Schultz discloses a computerized device (68) capable of automatically adjust (by adjusting the valve) the bottom hole flowing pressure to the stability envelope (col. 1, lines 66-col. 2, lines 3) and capable of comparing reservoir pressure to bottomhole flowing pressure to a stability envelope to adjust the bottom hole flowing pressure.

Referring to claims 19-20 Schultz discloses a valve or choke (38).

Allowable Subject Matter

5. Claims 8-15 and 22-28 are allowed.
6. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 1,3-7,16-21, and 29-31 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna M. Collins whose telephone number is 571-272-7027. The examiner can normally be reached on 6:30-3 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


gmc


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